



Sequence Listing.ST25.txt
SEQUENCE LISTING

<110> GTC Biotherapeutics, Inc.
Edge, Michael D
Pollock, Daniel
Echelard, Yann
Meade, Harry M
Rybak, Susanna M

<120> Transgenically Produced Fusion Proteins

<130> GTC-42D

<140> US 10/608,710

<141> 2003-06-27

<150> US 09/398,610

<151> 1999-09-17

<160> 11

<170> PatentIn version 3.2

<210> 1

<211> 705

<212> DNA

<213> Artificial

<220>

<223> complete humanized light chain sequence

<400> 1

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gtgaccatca cgtgtagtgc cagctcaagt gtaacttaca tgcactggta ccagcagaag      180
ccaggtaagg ctccaaagct gctgatctac agcacatcca acctggcttc tgggtgtgcca    240
agcagattct ccggaagcgg tagcggcacc gactacacct tcaccatcag cagcctccag      300
ccagaggata tcgccaccta ctactgccag cagaggagta cttaccgct cacgttcggc      360
caagggacca agctcgagat caaacggact gtggctgcac catctgtctt catcttcccg      420
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc      480
tatcccagag aggccaaagt acagtggaag gtggataacg cctccaatc gggtaactcc      540
caggagagtg tcacagagca ggacagcaag gacagcacct acagcctcag cagcacctg      600
acgctgagca aagcagacta cgagaaacac aaagtctacg cctgcgaagt cacccatcag      660
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<210> 2

<211> 235

<212> PRT

<213> Artificial

<220>

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<223> complete humanised light chain sequence

<400> 2

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Met Asp Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
1      5      10      15

Val Ile Met Ser Arg Gly Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
20     25     30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Ala Ser
35     40     45

Ser Ser Val Thr Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala
50     55     60

Pro Lys Leu Leu Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro
65     70     75     80

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile
85     90     95

Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Arg
100    105    110

Ser Thr Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
115    120    125

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
130    135    140

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
145    150    155    160

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
165    170    175

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
180    185    190

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
195    200    205

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
210    215    220

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225    230    235

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<210> 3
<211> 1870
<212> DNA
<213> Artificial

<220>
<223> expected PCR insert

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<400> 3
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accctgagcc tcacgtgcac cgcactctggc ttcaacatta aggacaatta catgcactgg 180
gtgagacagc cacctggacg aggccttgag tggattggat ggattgaccc tgagaatggt 240
gacactgagt acgcacctaa gtttcgcggc cgctgacaa tgctggcaga cactagtaag 300
aaccagttca gcctgagact cagcagcgtg acagccgccg acaccgcggt ctattattgt 360
cacgtcctga tatacgccgg gtatctggca atggactact ggggccaagg gaccctcgtc 420
accgtgagct cggctagcac caagggccca tcggtcttcc ccctggcgcc ctgctccagg 480
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gtgacggtgt cgtggaactc aggcgccctg accagcggcg tgcacacctt cccggctgtc 600
ctacagtcct caggactcta ctccctcagc agcgtggtga ccgtgccctc cagcagcttg 660
ggcaccacaga cctacacctg caacgtgaat cacaagccca gcaacaccaa ggtggacaag 720
agagtggagc tgaaaacccc actcgggtgac acaactcaca cgtgccctag gtgtcctgaa 780
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aacaagtggg aaacgataga ggcttggaact caacaagtcg cactgagaa tccagccctc 1020
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gaaattggag cctctcgaaa cccctgtgat gaaacttact gtggacctgc cgcagagtct 1440
gaaaaggaga ccaaggccct ggctgatttc atccgcaaca aactctcttc catcaaggca 1500
tatctgacaa tccactcgta ctcccaaagt atgatctacc cttactcata tgcttacaaa 1560
ctcggtgaga acaatgctga gttgaatgcc ctggctaaag ctactgtgaa agaacttgcc 1620

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tcactgcacg gcaccaagta cacatatggc ccgggagcta caacaatcta tccttctgct 1680
 gggacttcta aagactgggc ttatgaccaa ggaatcagat attccttcac ctttgaactt 1740
 cgagatacag gcagatatgg ctttctcctt ccagaatccc agatccgggc tacctgcgag 1800
 gagaccttcc tggcaatcaa gtatgttgcc agctacgtcc tggaacacct gtactaataa 1860
 tctagagaga 1870

<210> 4
 <211> 613
 <212> PRT
 <213> Artificial

<220>
 <223> humanised Fd mutant HCPB sequence

<400> 4

Met Lys Leu Trp Leu Asn Trp Ile Phe Leu Val Thr Leu Leu Asn Gly
 1 5 10 15

Ile Gln Cys Glu Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val Arg
 20 25 30

Pro Ser Gln Thr Leu Ser Leu Thr Cys Thr Ala Ser Gly Phe Asn Ile
 35 40 45

Lys Asp Asn Tyr Met His Trp Val Arg Gln Pro Pro Gly Arg Gly Leu
 50 55 60

Glu Trp Ile Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala
 65 70 75 80

Pro Lys Phe Arg Gly Arg Val Thr Met Leu Ala Asp Thr Ser Lys Asn
 85 90 95

Gln Phe Ser Leu Arg Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys His Val Leu Ile Tyr Ala Gly Tyr Leu Ala Met Asp Tyr
 115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 130 135 140

Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Gly Gly
 145 150 155 160

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
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165

170

175

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
180 185 190

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
195 200 205

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Thr Cys Asn Val
210 215 220

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Leu Lys
225 230 235 240

Thr Pro Leu Gly Asp Thr Thr His Thr Cys Pro Arg Cys Pro Glu Pro
245 250 255

Lys Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu Pro Lys
260 265 270

Ser Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Glu Pro Lys Ser
275 280 285

Cys Asp Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala Pro Glu Leu Leu
290 295 300

Gly Gly Ala Thr Gly His Ser Tyr Glu Lys Tyr Asn Lys Trp Glu Thr
305 310 315 320

Ile Glu Ala Trp Thr Gln Gln Val Ala Thr Glu Asn Pro Ala Leu Ile
325 330 335

Ser Arg Ser Val Ile Gly Thr Thr Phe Glu Gly Arg Ala Ile Tyr Leu
340 345 350

Leu Lys Val Gly Lys Ala Gly Gln Asn Lys Pro Ala Ile Phe Met Asp
355 360 365

Cys Gly Phe His Ala Arg Glu Trp Ile Ser Pro Ala Phe Cys Gln Trp
370 375 380

Phe Val Arg Glu Ala Val Arg Thr Tyr Gly Arg Glu Ile Gln Val Thr
385 390 395 400

Glu Leu Leu Asp Lys Leu Asp Phe Tyr Val Leu Pro Val Leu Asn Ile
405 410 415

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Asp Gly Tyr Ile Tyr Thr Trp Thr Lys Ser Arg Phe Trp Arg Lys Thr
420 425 430

Arg Ser Thr His Thr Gly Ser Ser Cys Ile Gly Thr Asp Pro Asn Arg
435 440 445

Asn Phe Asp Ala Gly Trp Cys Glu Ile Gly Ala Ser Arg Asn Pro Cys
450 455 460

Asp Glu Thr Tyr Cys Gly Pro Ala Ala Glu Ser Glu Lys Glu Thr Lys
465 470 475 480

Ala Leu Ala Asp Phe Ile Arg Asn Lys Leu Ser Ser Ile Lys Ala Tyr
485 490 495

Leu Thr Ile His Ser Tyr Ser Gln Met Met Ile Tyr Pro Tyr Ser Tyr
500 505 510

Ala Tyr Lys Leu Gly Glu Asn Asn Ala Glu Leu Asn Ala Leu Ala Lys
515 520 525

Ala Thr Val Lys Glu Leu Ala Ser Leu His Gly Thr Lys Tyr Thr Tyr
530 535 540

Gly Pro Gly Ala Thr Thr Ile Tyr Pro Ser Ala Gly Thr Ser Lys Asp
545 550 555 560

Trp Ala Tyr Asp Gln Gly Ile Arg Tyr Ser Phe Thr Phe Glu Leu Arg
565 570 575

Asp Thr Gly Arg Tyr Gly Phe Leu Leu Pro Glu Ser Gln Ile Arg Ala
580 585 590

Thr Cys Glu Glu Thr Phe Leu Ala Ile Lys Tyr Val Ala Ser Tyr Val
595 600 605

Leu Glu His Leu Tyr
610

<210> 5
<211> 96
<212> PRT
<213> Artificial

<220>
<223> preproHCPB with C-terminal Leu

<400> 5

His His Gly Gly Glu His Phe Glu Gly Glu Lys Val Phe Arg Val Asn
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1 5 10 15

Val Glu Asp Glu Asn His Ile Asn Ile Ile Arg Glu Leu Ala Ser Thr
 20 25 30

Thr Gln Ile Asp Phe Trp Lys Pro Asp Ser Val Thr Gln Ile Lys Pro
 35 40 45

His Ser Thr Val Asp Phe Arg Val Lys Ala Glu Asp Thr Val Thr Val
 50 55 60

Glu Asn Val Leu Lys Gln Asn Glu Leu Gln Tyr Lys Val Leu Ile Ser
 65 70 75 80

Asn Leu Arg Asn Val Val Glu Ala Gln Phe Asp Ser Arg Val Arg Leu
 85 90 95

<210> 6
 <211> 40
 <212> PRT
 <213> peptide linker

<400> 6

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1 5 10 15

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
 20 25 30

Gly Gly Gly Ser Gly Gly Gly Gly
 35 40

<210> 7
 <211> 11
 <212> PRT
 <213> peptide linker

<400> 7

Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser
 1 5 10

<210> 8
 <211> 20
 <212> PRT
 <213> peptide linker

<400> 8

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1 5 10 15

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Gly Gly Gly Gly
20

<210> 9
<211> 17
<212> PRT
<213> peptide linker

<400> 9

Ser Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser Ser Ser Ser Gly Ser
1 5 10 15

Pro

<210> 10
<211> 20
<212> DNA
<213> nucleic acid primer

<400> 10
tgtgctcctc tccatgctgg 20

<210> 11
<211> 20
<212> DNA
<213> nucleic acid primer

<400> 11
tggtctgggg tgacacatgt 20